

CLAIMS

I claim:

1. A twin-wire former in a paper machine including two forming wire loops, which define between themselves a twin-wire zone, and at least one dewatering box, which is located inside one of the wire loops to remove water through said wire from a web being formed, and at least one loading blade, which is located opposite to the dewatering box inside the other wire loop in contact with the other wire, which ^{Said at least one} dewatering box includes at least three successive dewatering zones, wherein every ^{other} ~~second~~ zone of the dewatering box has a vacuum and every second zone is vacuum-free, and the loading blade or blades is/are placed inside one of the wire loops at a location where it or them is/are opposed by ^{one of the} a vacuum-free zone, which is preceded and followed by ^{an < 180°} a vacuum zone.

2. The twin-wire former of claim 1 wherein vacuums of different magnitude are arranged in at least two vacuum zones of the dewatering box.

3. The twin-wire former of claim 2 wherein the magnitude of the vacuum of one of the least two vacuum zones of the dewatering box which is greater than the magnitude of another vacuum zone which precedes it in the running direction of the web.

4. The twin-wire former of claim 1 wherein on the surface of the dewatering box in contact with the wire there are dewatering blades which are disposed in such a way that the running of the wires over the dewatering box is along a linear path.

5. The twin-wire former of claim 1 wherein on the surface of the dewatering box in contact with the wire there are dewatering blades which are disposed in such a way that the running of the wires over the dewatering box is along a curved path.

6. The twin-wire former of claim 1 wherein in the running direction of the web before the dewatering box there is a pre-loading blade located inside the wire loop opposite to the dewatering box.

7. The twin-wire former of claim 1 wherein at the beginning of the dewatering box there is a vacuum-free zone which is opposed by a pre-loading blade located on the side of the second wire loop.

8. A twin-wire former in a paper machine, the former comprising:
a first forming wire loop;
a second forming wire loop, wherein portions of the first forming wire loop
and the second forming wire loop extend adjacent one another to
define a twin-wire zone;

at least one dewatering box located inside the first forming wire loop, to
remove water through the first forming wire loop from a web being
formed, the at least one dewatering box having a first zone, a second
zone downstream of the first zone, and a third zone downstream of
the second zone, the first zone and the third zone having vacuum
applied thereto, and the second zone having no vacuum applied
thereto; and

at least one loading blade, which is located opposite to the at least one
dewatering box inside the second wire loop, the at least one loading
blade being in contact with the second wire loop at a location
opposed by the second zone, such that the at least one loading blade
is positioned such that it is preceded and followed by zones of the at
least one dewatering box having vacuum applied thereto.

9. The twin-wire former of claim 8 wherein the magnitude of the vacuum applied to the first zone is different than the magnitude of the vacuum applied to the third zone.

10. The twin-wire former of claim 9 wherein the magnitude of the vacuum applied to the third zone is greater than the magnitude of the vacuum applied to the first zone.

5 11. The twin-wire former of claim 8 further comprising a plurality of dewatering blades disposed on a surface of the at least one dewatering box in contact with the first wire loop such that the running of the first wire loop and the second wire loop over the dewatering box is along a linear path.

10 12. The twin-wire former of claim 8 further comprising a plurality of dewatering blades disposed on a surface of the at least one dewatering box in contact with the first wire loop such that the running of the first wire loop and the second wire loop over the dewatering box is along a curved path.

13. The twin-wire former of claim 8 further comprising a pre-loading blade located inside the second wire loop upstream of the at least one dewatering box.

15 14. The twin-wire former of claim 8 wherein at the beginning of the at least one dewatering box there is a vacuum-free zone which is opposed by a pre-loading blade located on the side of the second wire loop.

15. A twin-wire former in a paper machine, the former comprising:
a first forming wire loop;
a second forming wire loop, wherein portions of the first forming wire loop
and the second forming wire loop extend adjacent one another to
define a twin-wire zone;
at least one dewatering box located inside the first forming wire loop, to
remove water through the first forming wire loop from a web being
formed, the at least one dewatering box having at least three
successive zones arranged in the twin-wire zone, wherein the zones
alternate between being a vacuum zone and being a vacuum-free
zone; and
at least one loading blade, which is located opposite to the at least one
dewatering box inside the second wire loop, the at least one loading
blade being in contact with the second wire loop at a location
opposed by one of the vacuum ^{free} zones, such that the at least one
loading blade is positioned such that it is preceded and followed by
zones of the at least one dewatering box having vacuum applied
thereto.

16. The twin-wire former of claim 15 further comprising a plurality of
dewatering blades disposed on a surface of the at least one dewatering box in contact
with the first wire loop such that the running of the first wire loop and the second
wire loop over the dewatering box is along a linear path.

17. The twin-wire former of claim 15 further comprising a plurality of
dewatering blades disposed on a surface of the at least one dewatering box in contact
with the first wire loop such that the running of the first wire loop and the second
wire loop over the dewatering box is along a curved path.

18. The twin-wire former of claim 15 further comprising a pre-loading blade located inside the second wire loop upstream of the at least one dewatering box.

5 19. The twin-wire former of claim 15 wherein at the beginning of the at least one dewatering box there is a vacuum-free zone which is opposed by a pre-loading blade located on the side of the second wire loop.

10 20. The twin-wire former of claim 15 wherein the at least three successive zones of the at least one dewatering box comprise a first vacuum zone and a second vacuum zone downstream of the first vacuum zone, and wherein the magnitude of the vacuum applied to the first vacuum zone is different than the magnitude of the vacuum applied to the second vacuum zone.

21. The twin-wire former of claim 20 wherein the magnitude of the vacuum applied to first vacuum zone is less than the magnitude of the vacuum applied to the second vacuum zone.